REMARKS:

The present invention relates to a level sensor for determining the quantity of fuel existing in the fuel tank of a vehicle. More specifically, it relates to that type of sensor in which a float mounted on a sensor wire or arm is connected to a bearing that alternatively effects the change in condition of voltage output from a rheostat. As the specification points out, this type of float operated fuel level gauge is known in the industry. Also pointed out is the fact that due to manufacturing methods, a burr often exists at the end of the suspending wire that can cause inaccuracies in operation and, further, the construction frequently is degraded by the generation of vibrations that results in wear of critical parts, thereby decreasing the accuracy of a fuel gauge reading.

To overcome defects of previously existing level sensors, the present applicants have proposed a new construction in which problems arising from manufacturing, as well as from operation (vibration), can be eliminated. The apparatus includes a lever arm having a float attached to its outer end; a support for attaching the sensor to the side wall of a fuel tank and a bracket which has a first limb and a second limb. This bracket is secured to the support by means of a bearing that is located intermediate the ends of the first and second limbs. Finally, means are provided for connecting the end of the float arm to the first limb at a preselected distance from the bearing that connects the bracket to the support. Referring to the drawings, it can be seen that the float 4 is connected to the outer end of a float arm 7 and that the float arm 7 is potentially connected to a plastic bracket 12. Bracket 12 is secured to support 6 by means of a pivot member 11. The second limb carries an electrical component that cooperates with the track 9 to generate voltage which is dependent on the vertical position of float 4

within the fuel tank. From this it can clearly be seen that the float arm 7, which can transmit vibrations, is connected not to the pivot point 11 but only to the intermediate bracket 12. Provision of an intermediate structural member between the vibration transmitting float arm 7 and the pivot point 11 provides insulation to the pivot and, thereby, prevents damage from vibration.

Claim 1 was rejected as anticipated by Gunther 6,267,007. In the Action, it is indicated that Gunther discloses a level arm 3 with a float 4 having a support (e.g., carrier part (1)), and a bracket (2), as well as a signal transmitter. Amended claim 1 now calls for the lever arm that supports the float to terminate in the first limb of bracket 5 and for bracket 5 to be supported by bearing 11 at a preselected distance from the point where the level wire terminates.

As can clearly be seen in Fig. 3 of Gunther, the level wire 3 extends completely into bracket 2 and acts as the pivot about which the rheostat contact rotates. From the figures of the Gunther patent, it is clear that there is no element that coincides both in operation and construction with the bracket 5. That is, Gunther provides no construction and suggests no construction that is capable of performing the vibration dampening function in the chain of parts existing between the float and the rheostat.

By virtue of its construction, the present invention proposes a separation of the float wire from the bearing. By doing this, the preciseness of the level sensor increased. The separation of the wire from the bearing by means of part 5 effects a vibration dampening mechanism so that the level wire 7 does not contact the bearing 11. Analogous construction is not present in the reference.

In view of the foregoing, it is respectfully submitted that claim 1, as amended, cites a structure which is neither found or suggested by Gunther and that reconsideration and allowance of the claims are, therefore, respectfully requested.

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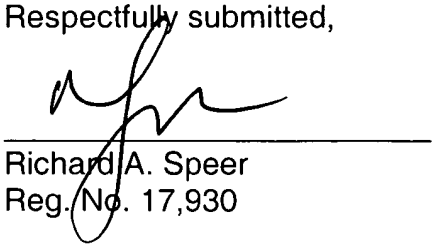
Respectfully submitted,



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